

What is claimed is:

1 1. A shock detection device adapted to output a shock detection signal
2 for stopping writing into a disk medium when a shock applied to said disk
3 medium satisfies a prescribed condition, said shock detection device
4 comprising:

5 a shock sensor that detects a shock applied to said disk medium and
6 outputs a corresponding shock sensor signal;

7 a variable shock detection slice value setting part that sets a variable
8 shock detection slice value, which is a threshold for said shock sensor signal,
9 based on a position error signal representative of the relative position of said
10 disk medium in a radial direction thereof from the center of a target track of
11 said disk medium; and

12 a shock determining part that outputs a shock detection signal when
13 said shock sensor signal exceeds said variable shock detection slice value.

1 2. The shock detection device according to claim 1, wherein said variable
2 shock detection slice value setting part sets said variable shock detection slice
3 value in such a manner that the smaller the absolute value of said position
4 error signal, the larger does said variable shock detection slice value become.

1 3. The shock detection device according to claim 1, wherein said shock
2 determining part does not output the shock detection signal when the absolute
3 value of said position error signal is in a prescribed range.

1 4. The shock detection device according to claim 1, further comprising a
2 shock sensor signal correction part that outputs, as a new shock sensor signal,
3 a signal by removing noise generated in synchronization with writing from said
4 shock sensor signal.

1 5. A shock detection device adapted to output a shock detection signal
2 for stopping writing into a disk medium when a shock applied to said disk
3 medium satisfies a prescribed condition, said shock detection device
4 comprising:

5 a shock sensor that detects a shock applied to said disk medium and
6 outputs a corresponding shock sensor signal;

7 a shock sensor signal correction part that outputs a corrected shock
8 sensor signal by removing noise generated in synchronization with writing from
9 said shock sensor signal; and

10 a shock determining part that outputs a shock detection signal when
11 said corrected shock sensor signal exceeds a prescribed shock detection slice
12 value.

1 6. The shock detection device as set forth in claim 4, wherein said noise is
2 extracted by averaging a plurality of shock sensor signal outputs acquired in
3 synchronization with the timing of said writing.

1 7. A disk drive adapted to stop writing when a shock satisfies a
2 prescribed condition, said disk drive comprising:

3 a control part that outputs data input from outside and the timing of
4 writing at the time of writing the data;

5 a disk medium into which the data is written;

6 an R/W head that performs writing or reading with respect to said disk
7 medium;

8 an R/W circuit that reads said position error signal from an output of
9 said R/W head, and outputs data from said control part to said R/W head in
10 accordance with the timing of writing from said control part;

11 a shock detection device according to claim 1 that outputs said shock
12 detection signal when a shock applied to said disk medium satisfies said

13 prescribed condition; and
14 a write-protection circuit that stops the timing of writing from said
15 control part when said shock detection signal is input thereto from said shock
16 detection device.

1 8. A shock detection method adapted to output a shock detection signal
2 for stopping writing into a disk medium when a shock applied to said disk
3 medium satisfies a prescribed condition, said shock detection method
4 comprising the steps of:

5 detecting a shock applied to said disk medium and outputting a
6 corresponding shock sensor signal;

7 setting a variable shock detection slice value, which is a threshold for
8 said shock sensor signal, based on a position error signal representative of the
9 relative position of said disk medium in a radial direction thereof from the
10 center of a target track of said disk medium; and

11 generating a new shock sensor signal by removing noise generated in
12 synchronization with writing from said shock sensor signal; and

13 outputting a shock detection signal when said new shock sensor signal
14 exceeds said variable shock detection slice value.

1 9. A shock detection program for making a computer execute a shock
2 detection method of outputting a shock detection signal for stopping writing into
3 a disk medium when a shock applied to said disk medium satisfies a
4 prescribed condition,

5 said shock detection program being operable to make the computer
6 perform;

7 a step of detecting a shock applied to said disk medium and outputting
8 a corresponding shock sensor signal;

9 a step of setting a variable shock detection slice value, which is a

10 threshold for said shock sensor signal, based on a position error signal
11 representative of the relative position of said disk medium in a radial direction
12 thereof from the center of a target track of said disk medium;
13 a step of generating a new shock sensor signal by removing noise
14 generated in synchronization with writing from said shock sensor signal; and
15 a step of outputting a shock detection signal when said shock sensor
16 signal exceeds said variable shock detection slice value.